

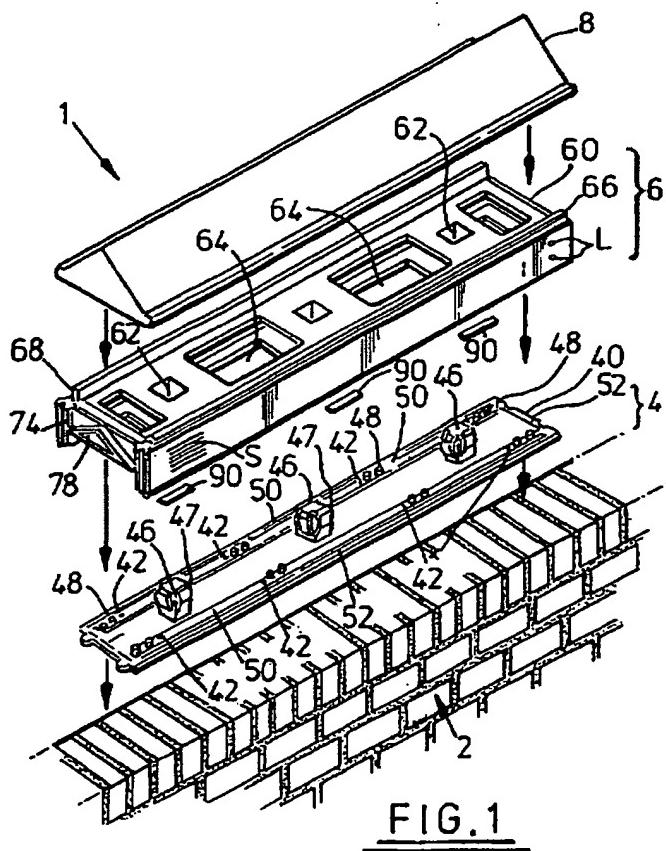
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| | US 5461364 A |
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(54) Abstract Title
Perimeter wall security systems

(57) The security system has a first part (4) for fixing to the top of a wall (2) and a second part (6) being mounted for relative movement on said first part in one or more planes of the wall, whereby movement of the second part generates a signal to activate a visual and/or audible alarm. A top section or cover (8) may be provided to protect the internal components of the system.



At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

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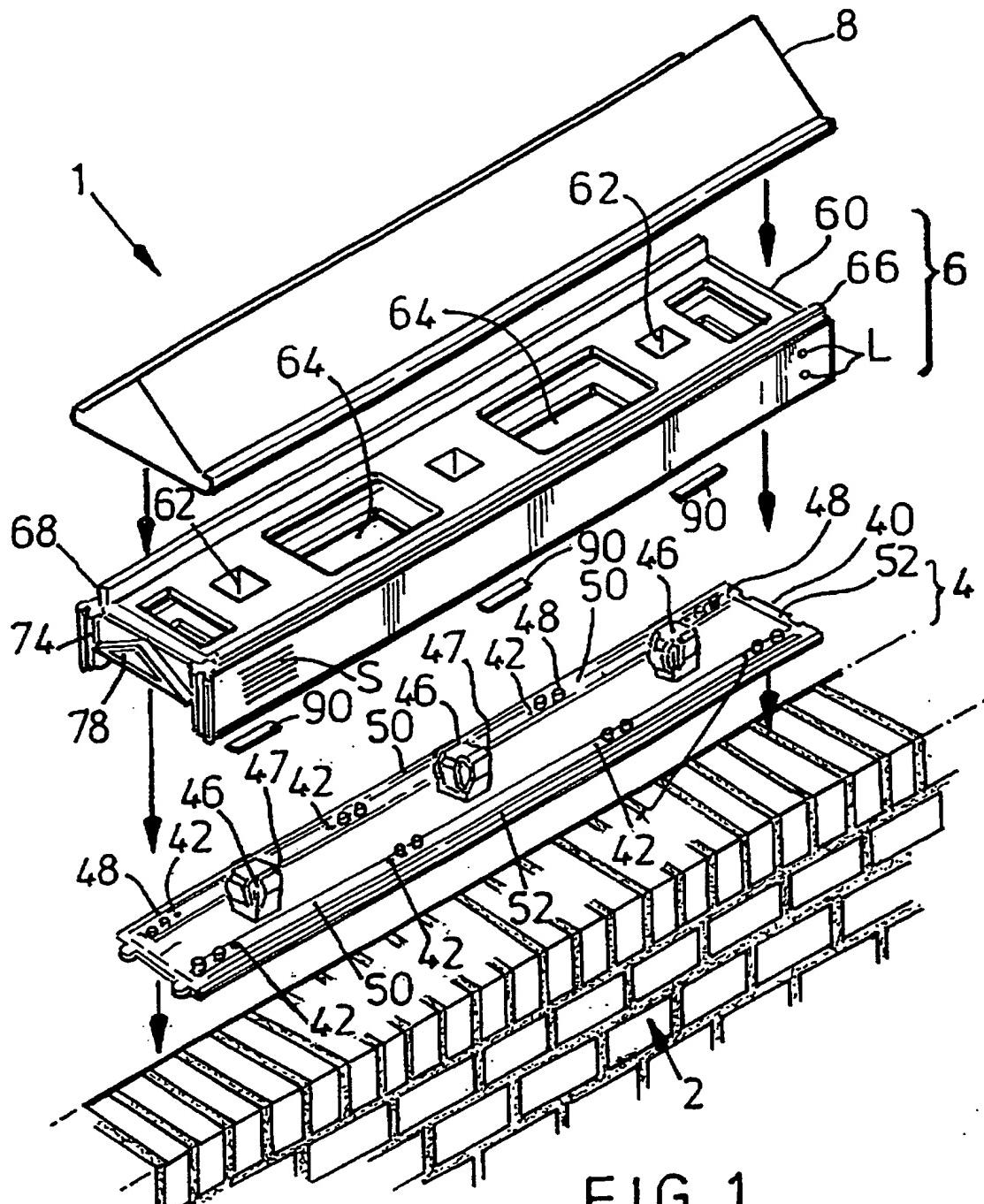


FIG. 1

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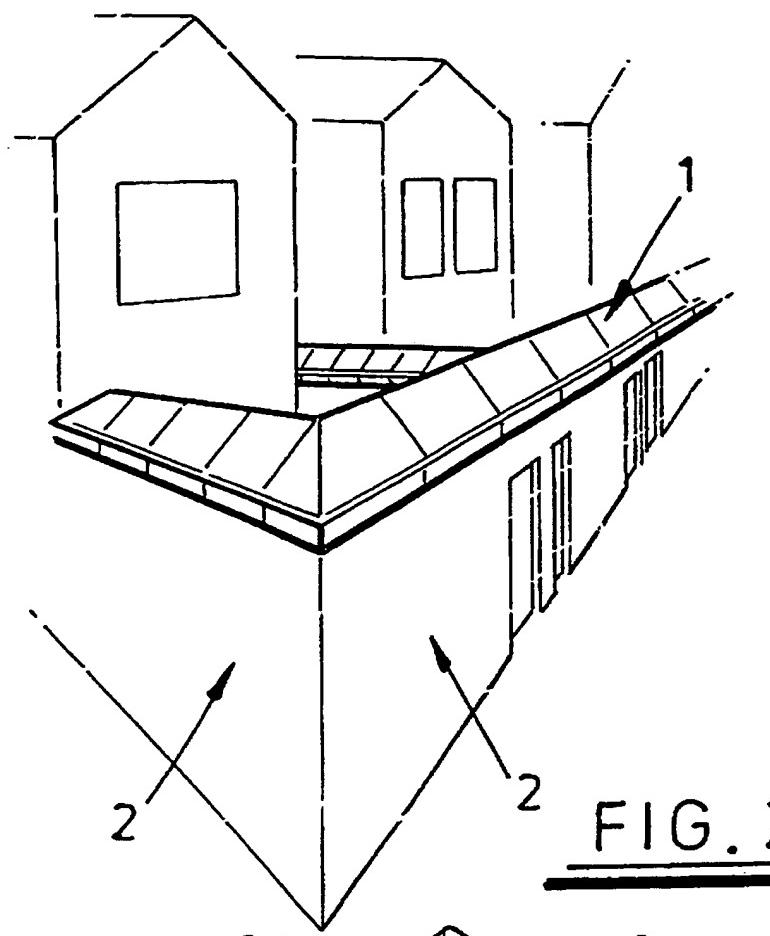


FIG. 2

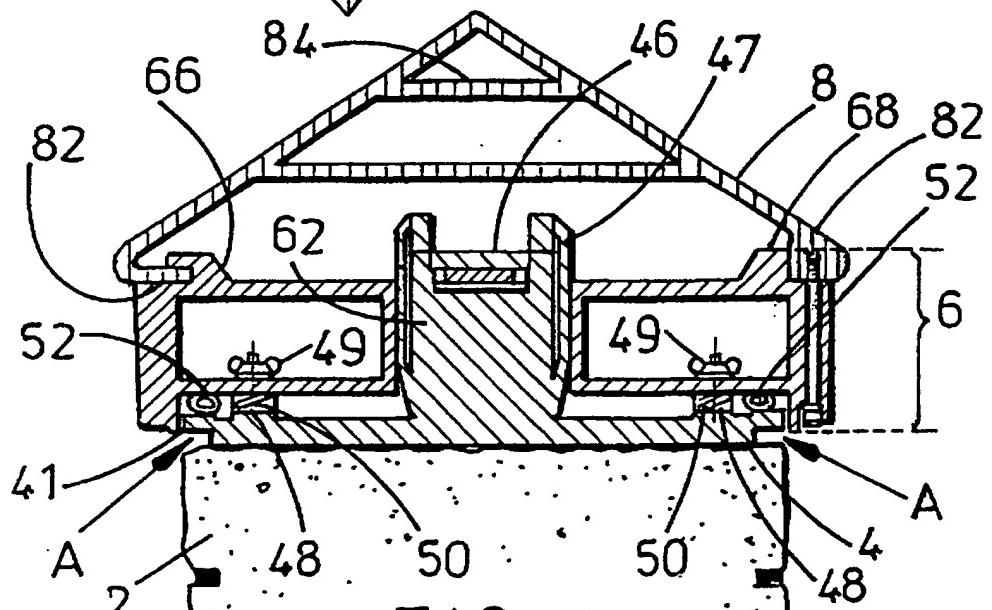
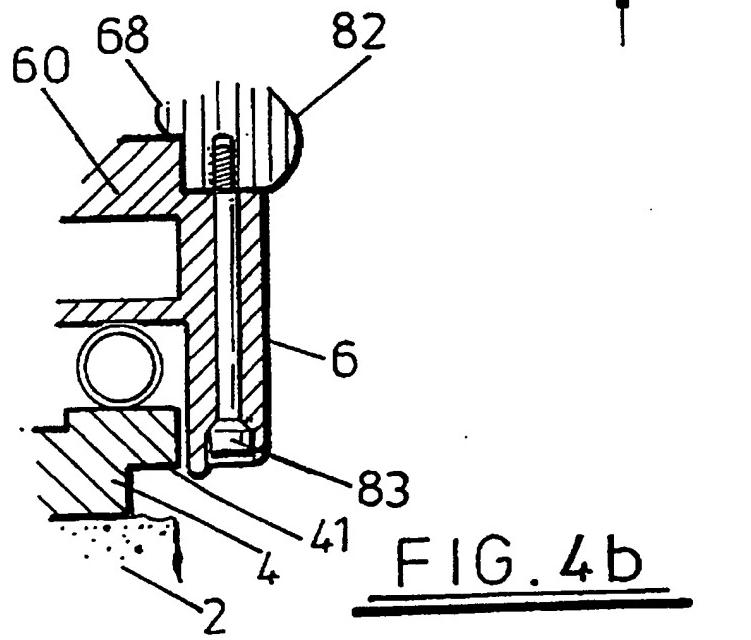
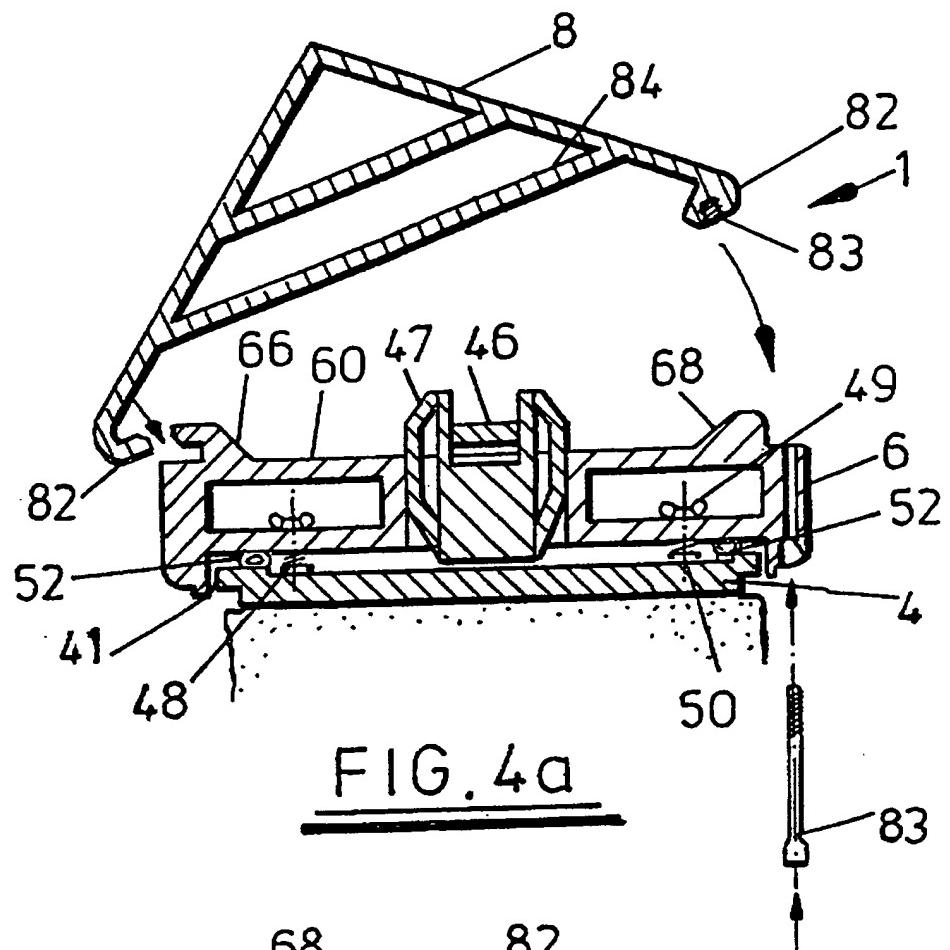


FIG. 3



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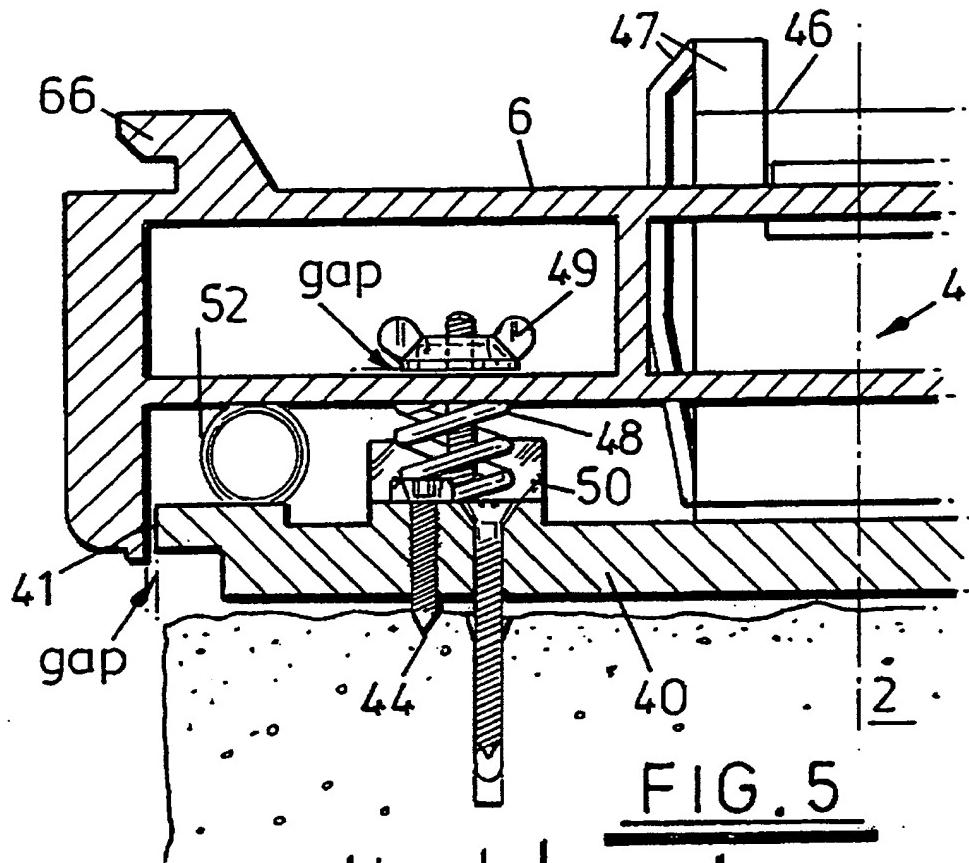


FIG. 5

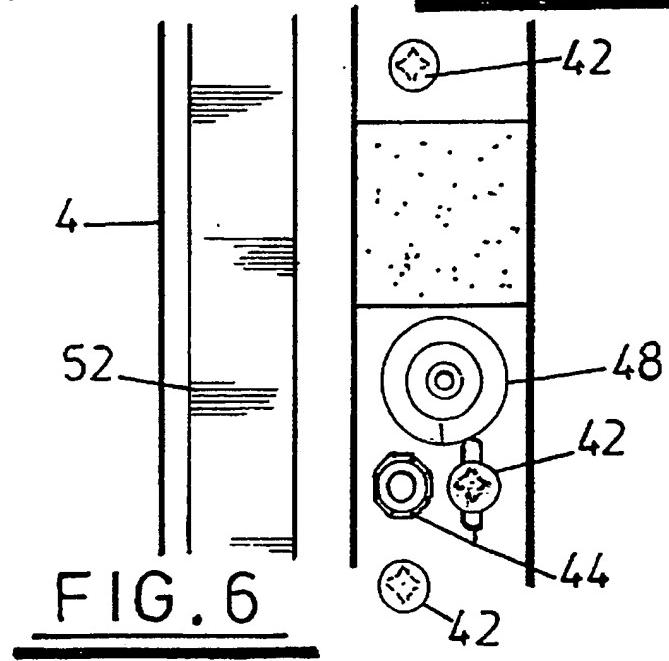
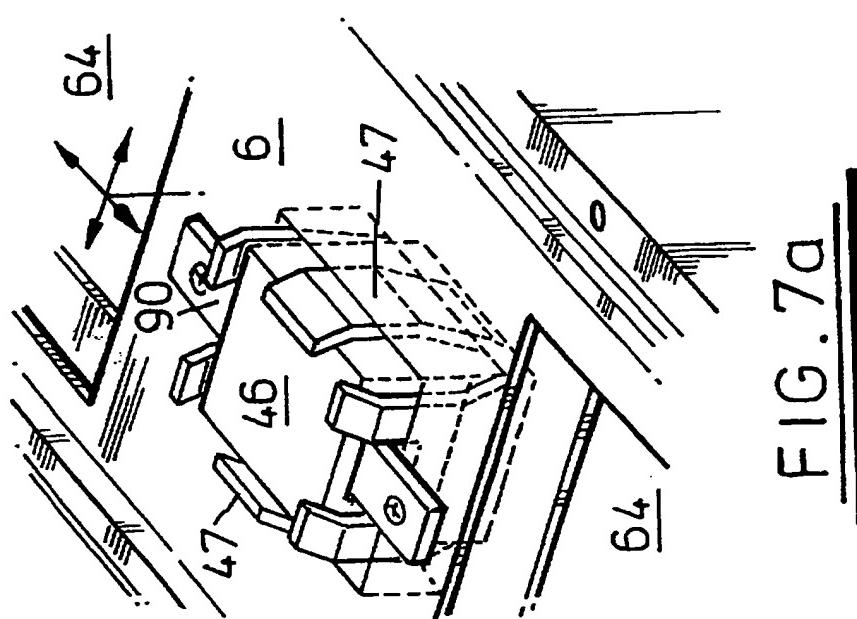
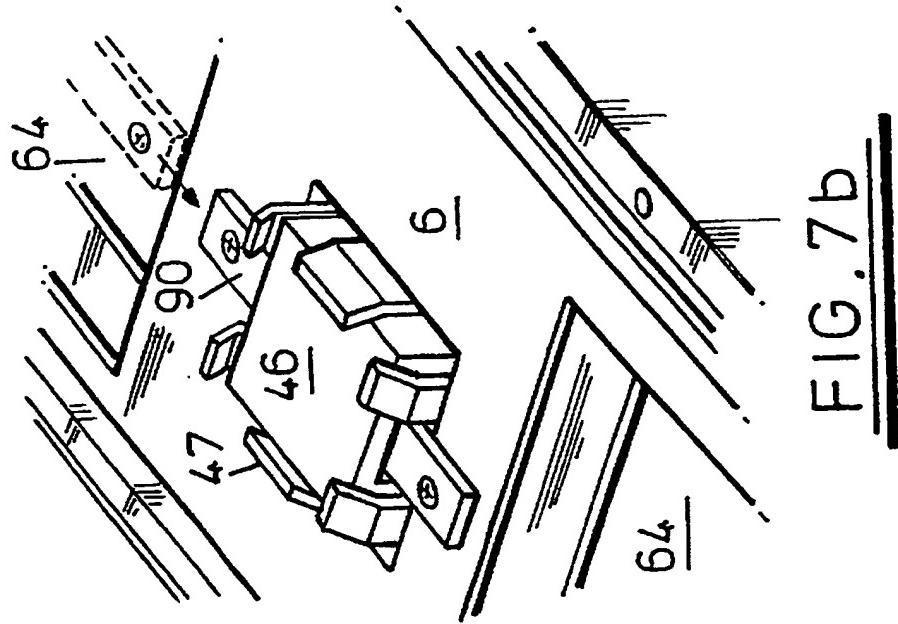
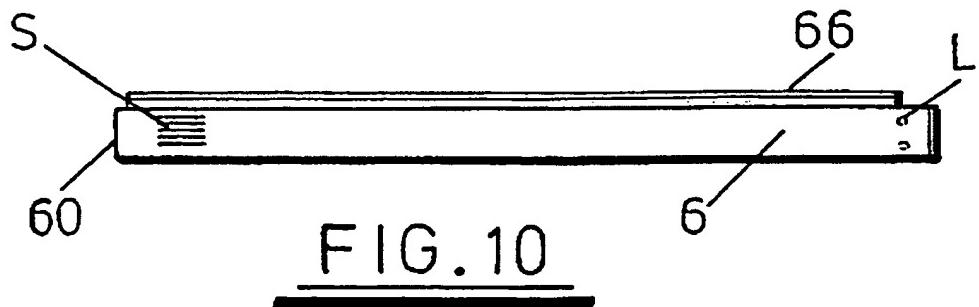
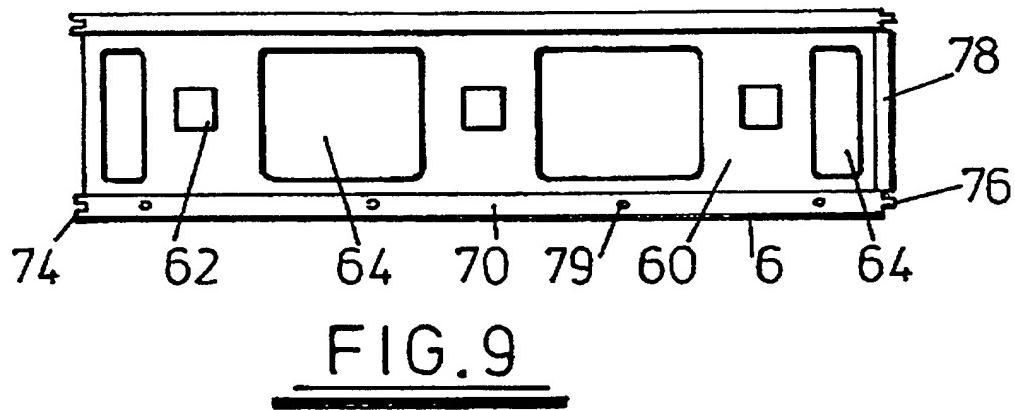
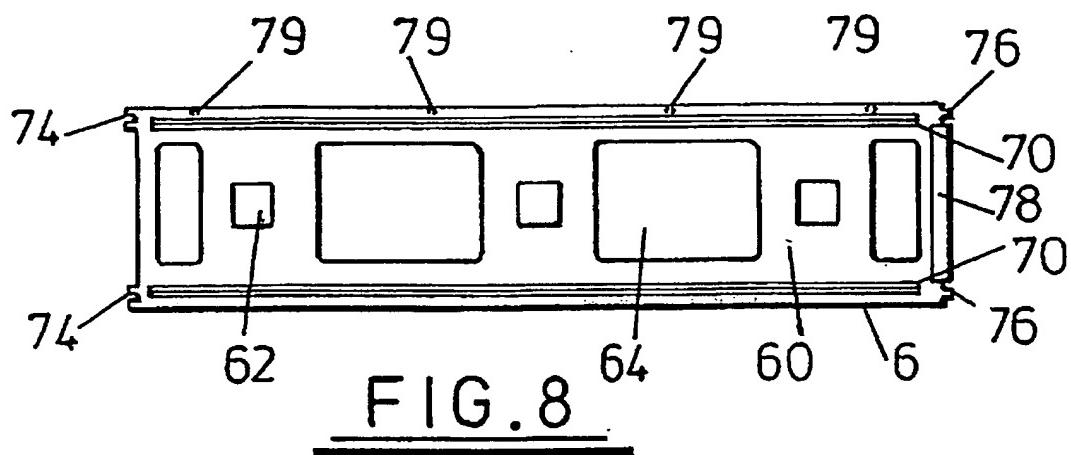


FIG. 6





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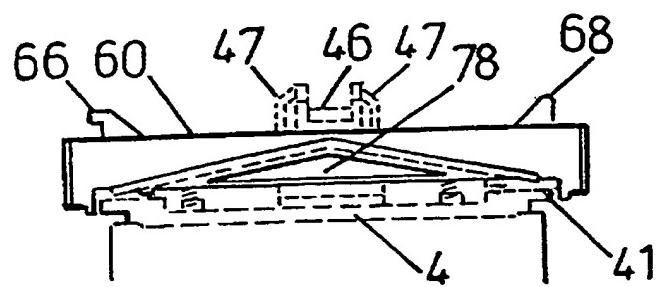


FIG.11

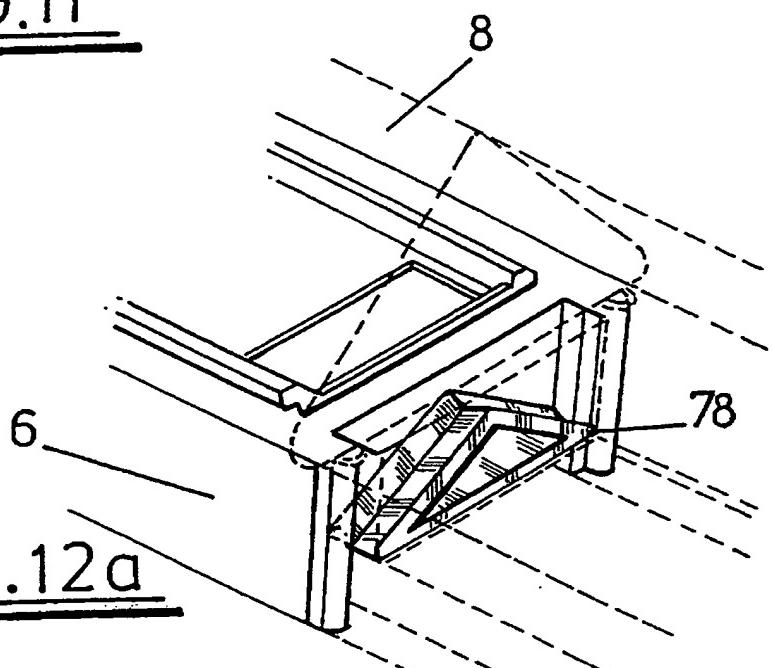


FIG.12a

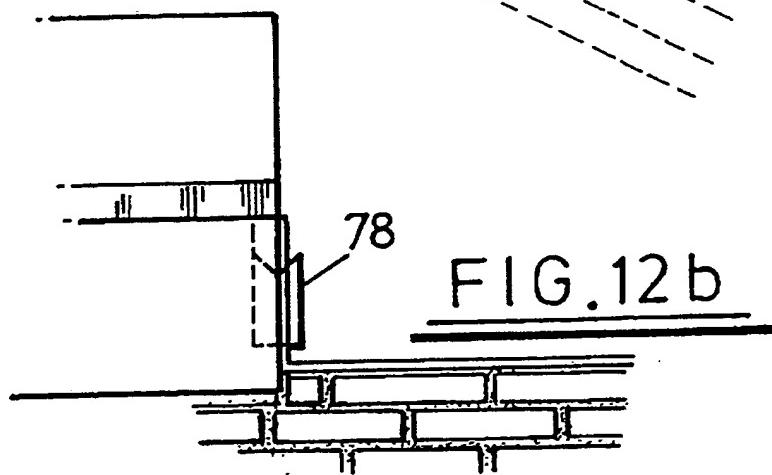


FIG.12 b

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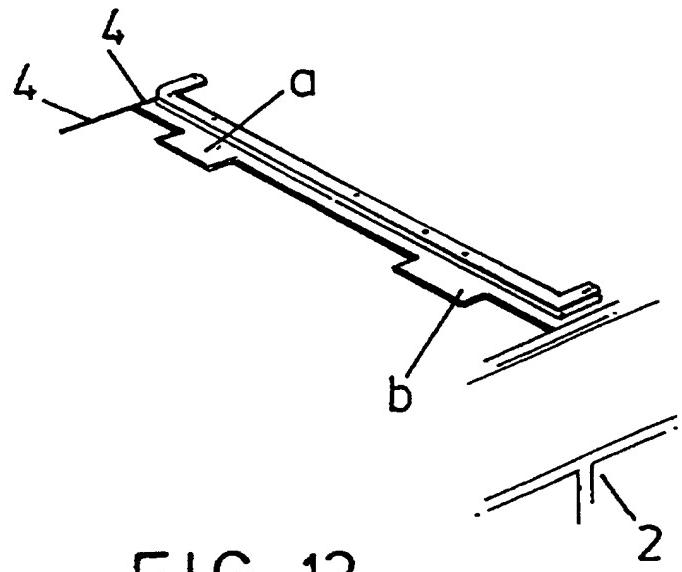


FIG. 13

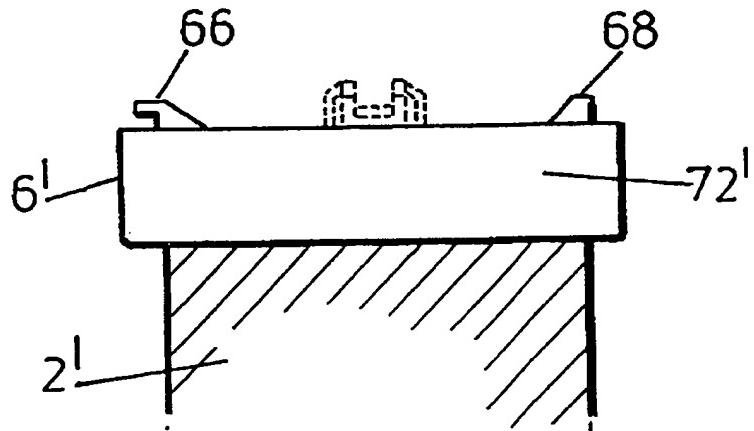


FIG. 14

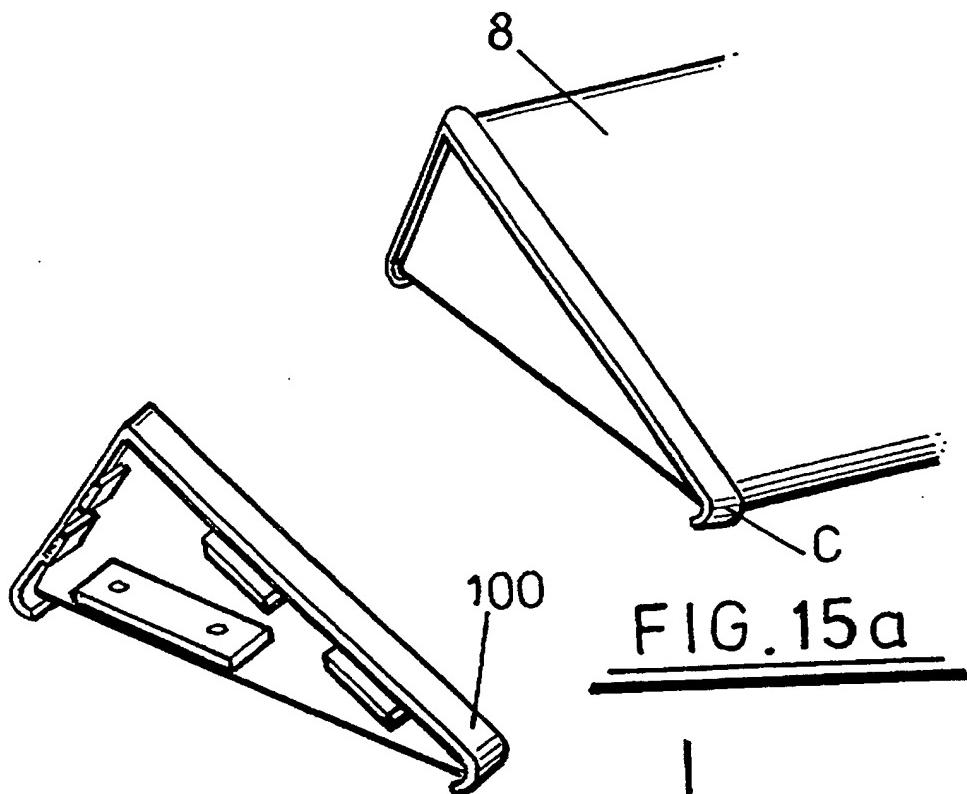


FIG. 15b

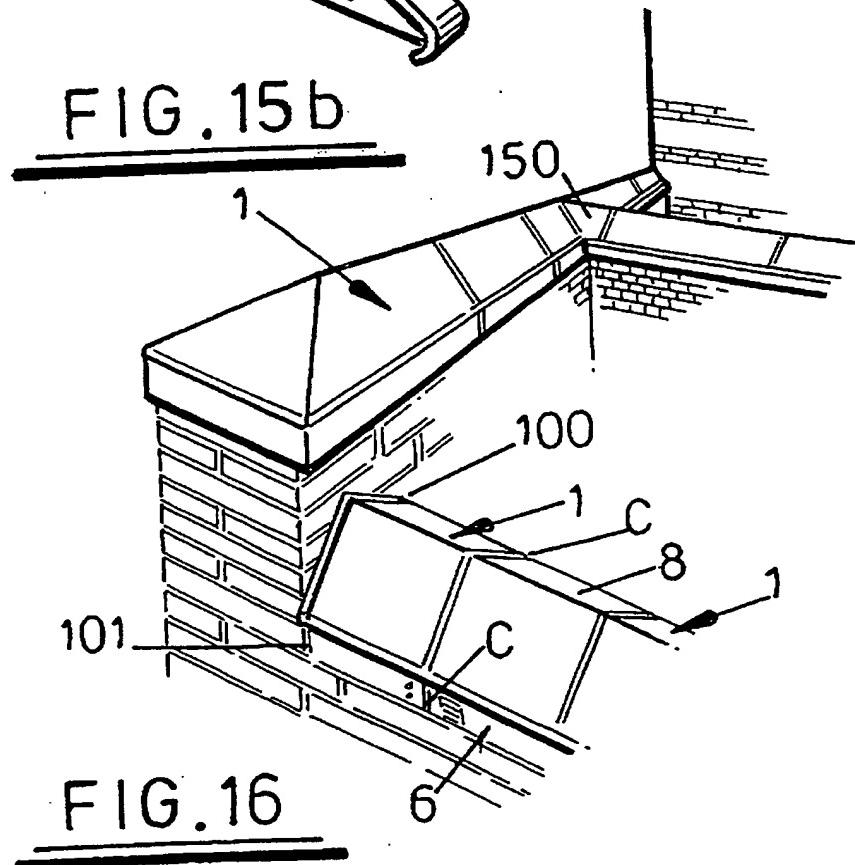


FIG. 16

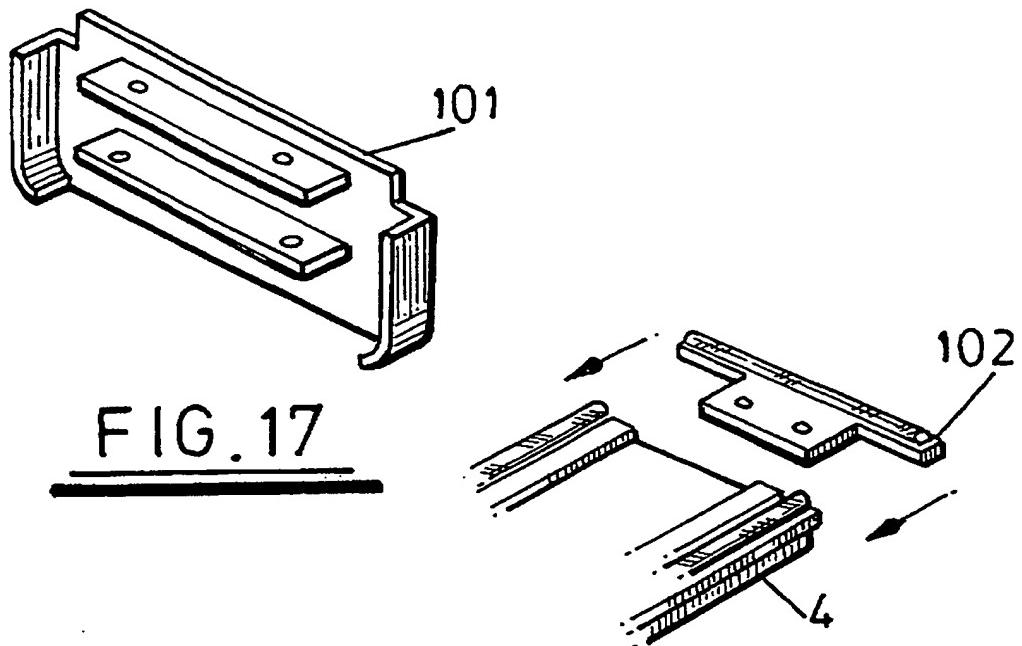


FIG. 18

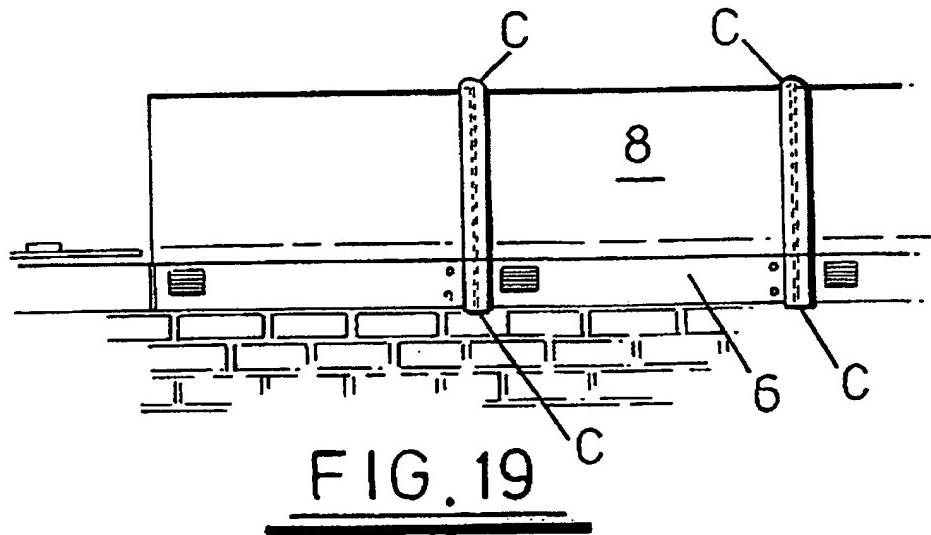
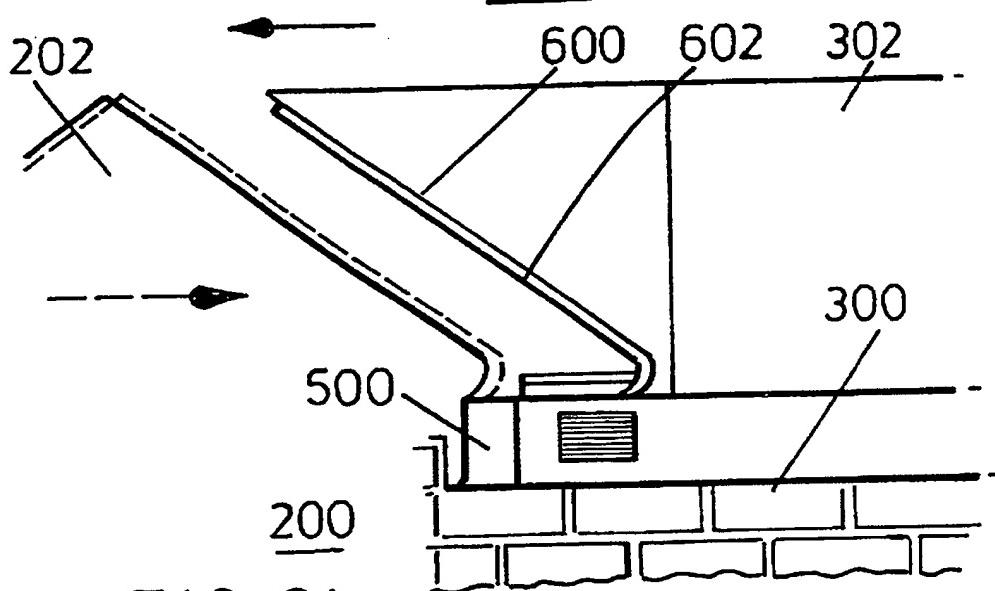
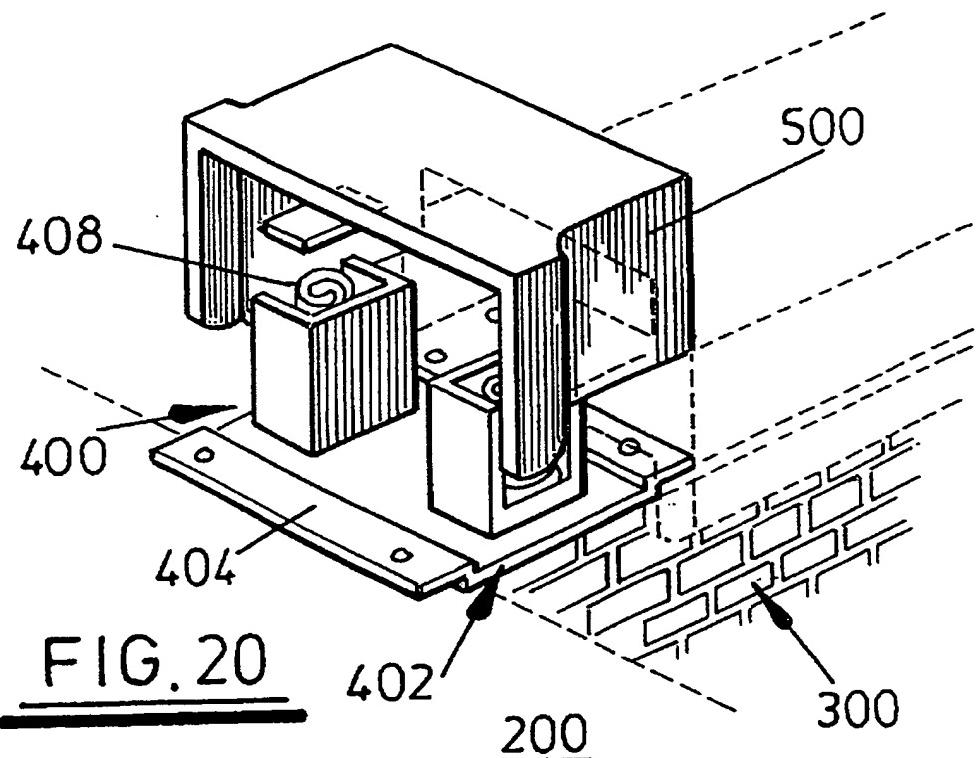


FIG. 19

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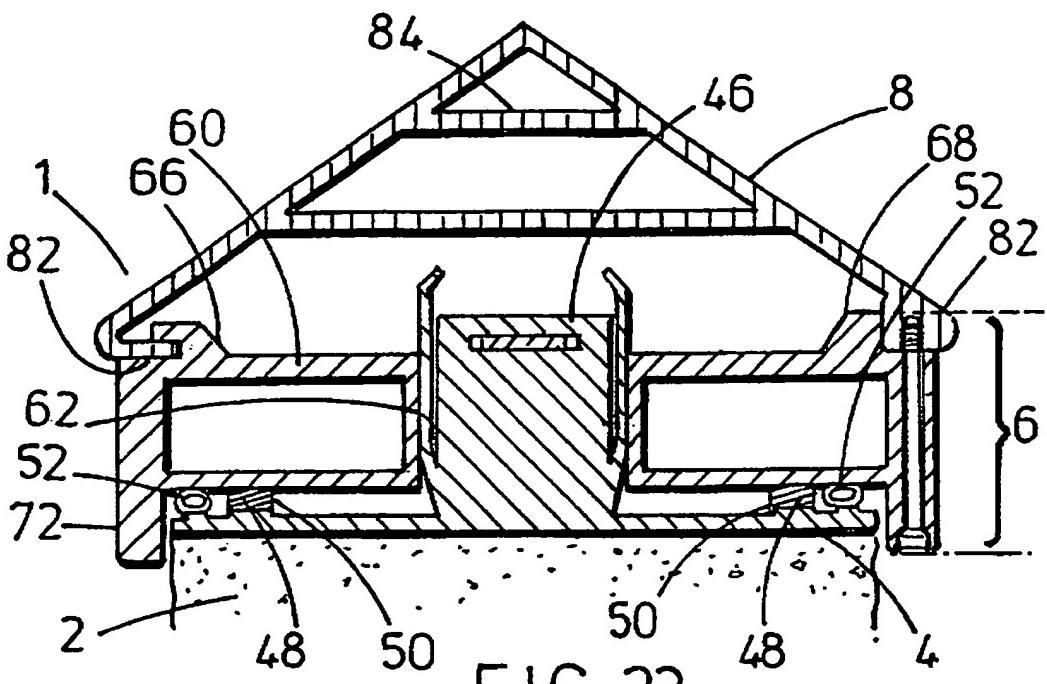


FIG. 22

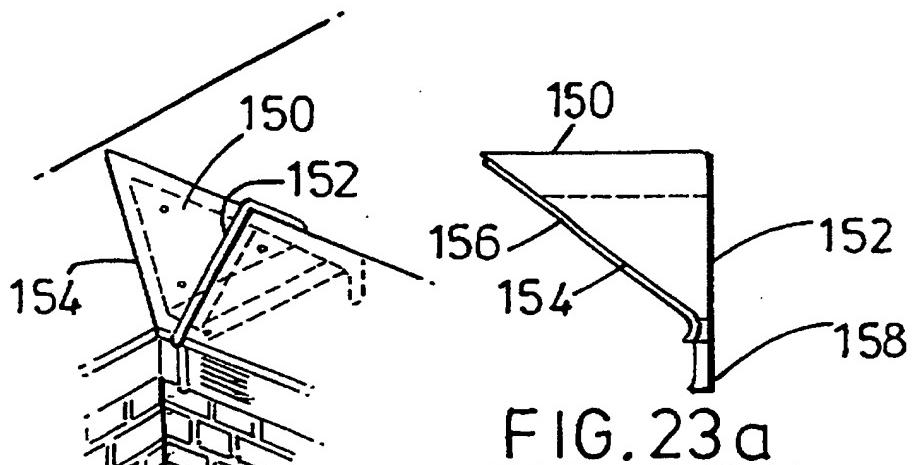


FIG. 23a



FIG. 24

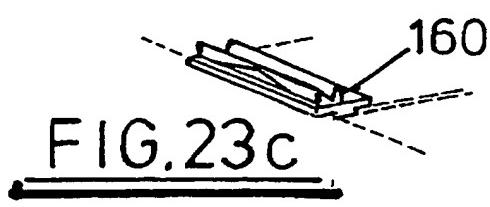


FIG. 23c

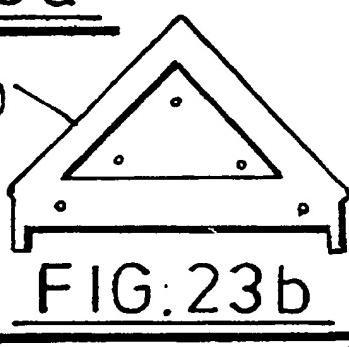


FIG. 23b

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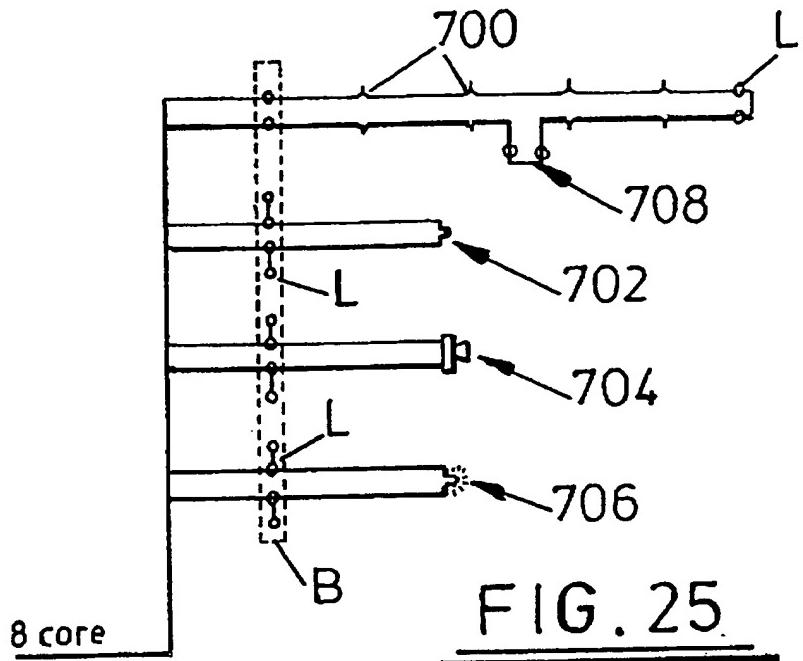


FIG. 25

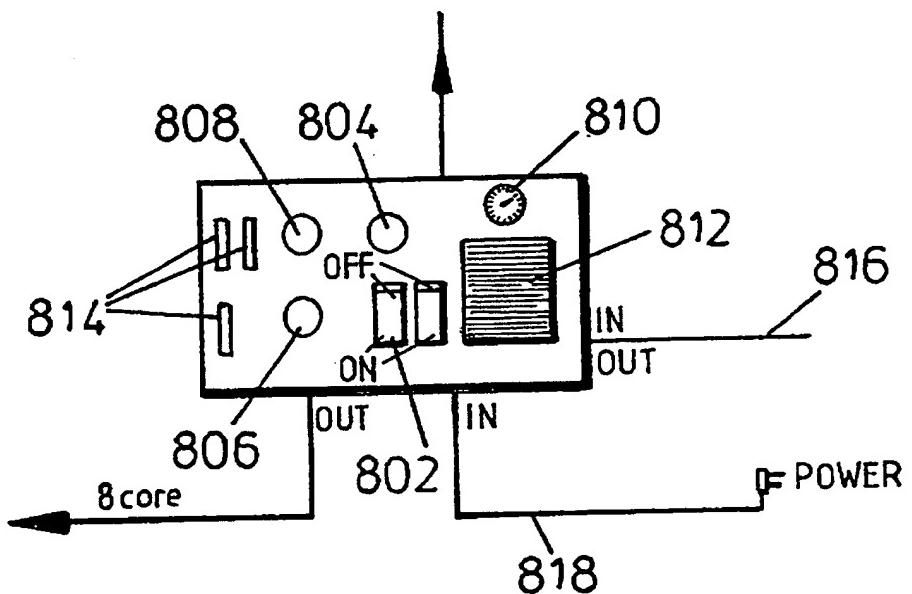


FIG. 26

Title: Improvements in and relating to security systems.

DESCRIPTION

The present invention relates to an improved security system, particularly a perimeter security system.

There are many security systems in existence for protecting property from intruders. House alarm systems, such as those which rely on infra red detectors, are often installed in homes to activate an audible alarm in the event of a break-in. However, such alarm systems may be activated accidentally and additionally, allow entry of the intruder before sounding and thus, may not be activated sufficiently quickly to prevent damage occurring to the property.

Perimeter security systems are also known, but have the disadvantage of being visible to the intruder. Exposed wiring, which is susceptible to vandalism, is usually found fixed to the surface of or around fences, walls and parapets. Vibrations and seismic sensitive devices may also be employed but are prone to false alarms, for example due to heavy traffic, and are expensive. CCTV may be implemented but requires a manned monitoring station which is not feasible for the domestic and more vulnerable market. Broken glass or razor wire may be provided around the perimeter of a property to deter intruders but this is unsightly and hazardous and may result in the owner of the property having to pay out compensation should an innocent person such as a window cleaner, harm himself on the wall.

It is an object of the present invention to provide an improved security system, particularly a perimeter security system, which overcomes the abovementioned drawbacks.

Accordingly, the present invention provides a security system comprising an attachment for mounting on a wall, the attachment having first and second parts, the first part being fixable to the wall and the second part being mounted for relative movement on said first part in one or more planes of the wall, whereby movement of the second part generates a signal to activate a visual and/or audible alarm.

The second part preferably has a limited range of movement with respect to said first part. The second part may be moveable in the horizontal and/or vertical plane of the wall. It is preferable for the second part to be able to recover its original position after removal of the force which causes movement thereof, for example by means of a spring mechanism. Preferably, the means for generating the signal is housed within the interior of the attachment.

Movement of the attachment may activate a visual or audible alarm which may be located on a part of the attachment and/or may be remote therefrom.

More preferably, the attachment is comprised of a base section, a middle section and a top section wherein the base section is secured to the wall and the middle section is mounted on the base section in a manner which allows a restricted range of lateral and/or vertical movement of the middle section with respect to the base section. The top section is then attached to the middle section.

Preferably, the base section is in the form of a flat, longitudinal member having means for attachment to the wall. Preferably, the base section is provided with at least

one spring extending upwardly therefrom for supporting the lower surface of the middle section. The base section is preferably provided with means for preventing excessive movement of the springs, such as rubber supports. Preferably, a seal, for example in the form of rubber tubing, is provided around the perimeter of the base section.

Preferably, the base section is provided with support guides for receiving the middle section, for example, in the form of rectangular blocks extended upwardly from the member and being substantially perpendicular thereto. The support guides are preferably provided with slots for receiving locking slide members.

The middle section is preferably in the form of a rectangular elongated block dimensioned to fit onto the base section. Preferably, the block is provided with bores for receiving the support guides of the base section. Preferably, spring members, for example of sprung steel, are inserted between the inner surface of the bore and the outer surface of the guide to allow a limited range of lateral movement of the middle section with respect to the base section. The middle section may be attached to the base section by the provision of locking slide members through the slots of the guide members.

Preferably, the middle section is relieved of material in one or more regions thereof to provide, in the assembled unit, one or more cavities for housing the internal components of the security system, such as electronic circuitry. Speakers and/or lights may be provided on the outer surface of the middle section for activation upon detection of any movement of the section.

The top section is preferably provided with means for being releasably secured to the middle section thereby providing a cover for the components contained within the middle

section but allowing access thereto for maintenance and repair purposes. The cover may be made in any required shape or size depending upon the desired appearance of the wall. Preferably, the intended upper surface of the top section is sloping to direct water away from the wall.

Any suitable mechanism may be employed to detect movement of the attachment and transmit a signal to activate an alarm, such as magnetic contacts, microswitches or tilt switches. The security system may be powered by an internal battery, solar energy and/or from an external power source.

It is to be appreciated that multiple attachments may be connected together to provide a security system which extends around the entire perimeter wall of a property. Preferably, each attachment is provided with an electric controller in the interior thereof having means to preset the audible and/or visible alarm to operate within a specified time period. An electrical connector block is preferably provided within each attachment for connecting all the attachments together by means of loops in the circuit. In this manner, movement of an individual attachment will "open circuit" the system and cause activation of an audible and/or visible alarm. The circuit may also allow for additional input from another intruder-sensitive device, for example, provided on a door or gate. The electronic circuitry is preferably linked to a control panel, which may be located in the interior of the property and may also be connected to an existing alarm system.

For a better understanding of the present invention and to show more clearly how it may be carried into effect, reference will now be made by way of example only, to the accompanying drawings in which:-

Figure 1 is an exploded perspective view of one unit of a security system according to one embodiment of the present invention;

Figure 2 is a schematic diagram of multiple units of the security system shown in Figure 1 installed around the perimeter of housing;

Figure 3 is a cross-sectional diagram of the unit shown in Figure 1;

Figure 4a is a cross-sectional diagram illustrating the assembly of the unit shown in Figure 1;

Figure 4b is an enlarged view of the region of attachment of a middle section to a top section of a unit of the security system as shown in Figure 1;

Figure 5 is a cross-sectional diagram of one half of the base and middle sections of a unit of the security system shown in Figure 1 (other half corresponds);

Figure 6 is a plan view of the base section of a unit of the security system shown in Figure 1;

Figures 7a and 7b illustrate the attachment of the middle section of a unit of the security system shown in Figure 1 to the base section;

Figure 8 is a plan view of the upper surface of the middle section of a unit of the security system shown in Figure 1;

Figure 9 is a plan view of the lower surface of the middle section of a unit of the security system as shown in Figure 1;

Figure 10 is a side view of the middle section of a unit of the security system shown in Figure 1;

Figure 11 is a cross-sectional view of the middle section attached to the base section of a unit of the security system shown in Figure 1;

Figures 12a and 12b are respectively a perspective view and side view of one end of a middle and top section of a unit of the security system shown in Figure 1;

Figure 13 is a perspective view of a joint between two base sections of adjacent units of a security system according to the present invention;

Figure 14 is a cross-sectional view of an alternative middle section for a unit of a security system according to the present invention;

Figure 15a is a perspective view of a top section fitted with a collar for a security system according to the present invention;

Figure 15b is a perspective view of an end piece for a top section for a security system according to one embodiment of the present invention;

Figure 16 is a perspective view illustrating the collar and end piece of Figures 15a and 15b attached to a security system of the present invention;

Figure 17 is a perspective view of an end piece for a middle section for a unit of a security system according to one embodiment of the present invention;

Figure 18 is a perspective view of an end piece for a base section for a unit of a security system according to one embodiment of the present invention;

Figure 19 is a side view of multiple units of a security system according to the present invention;

Figure 20 is a perspective view of an alternative base section and middle section of a unit for a security system of the present invention;

Figure 21 is a side view illustrating the attachment of a top section to the middle and base section shown in Figure 20;

Figure 22 is a cross-sectional diagram of a unit of a security system according to another embodiment of the present invention;

Figures 23a to 23c illustrate the components of an end unit for a security system according to an alternative embodiment of the present invention;

Figure 24 is a perspective view illustrating the attachment of the end unit shown in Figures 23a to 23c to a wall;

Figure 25 is a schematic diagram of an electrical circuit for activation of an alarm for installation in a security system according to one embodiment of the present invention; and

Figure 26 is a plan view of an electronic control panel for a security system according to one embodiment of the present invention.

Figures 1 to 4 of the accompanying drawings illustrate a security system for installation around perimeter walling 2. Each unit 1 of the illustrated security system comprises three sections, a base section 4, a middle section 6 and a top section 8 which are mounted on to the top surface of a wall. The interior of the assembly contains means for detecting any physical depression, lifting or pushing of the assembly which generates a signal for activation of an appropriate alarm.

Referring in particular to Figures 1, 5 and 6 of the accompanying drawings, the base section 4 comprises a flat longitudinal member 40 which in general will be dimensioned to be of a similar width to the width of the wall onto which it is to be mounted. The base member 40 is provided with several fixing points 42 for attachment to the wall, eg by

screws, and has a raised edge 41 along the longitudinal sides thereof. Adjustable locking bolts 44 may also be used to attach the base section to the wall top, particularly if the surface of the wall top is uneven to prevent the base section distorting whilst being secured in position. Alternatively, a layer of quick setting cement or resin may be spread over the uneven wall top to allow accurate alignment of the base section thereon.

The base section is provided with support guides 46 in the form of rectangular blocks extending upwardly from the base member 40 and being substantially perpendicular thereto. Upwardly extending springs 48 are provided at spaced apart intervals around the perimeter of the base member 40 and rubber supports 50 stretch around the periphery of the base member. A further hollow rubber tube 52, for example of neoprene, is provided around the extreme outer edge of the base section.

The middle section 6 comprises a rectangular elongated block 60 dimensioned to fit onto the base section 4. The block is provided with bores 62 for receiving the guides 46 of the base section and has regions 64 which are relieved of material to form cavities within the middle section (see, in particular Figures 8 to 11). The upper longitudinal edges of the block are provided with a lip 66 along one side of the block and a flange 68 along the other for attachment of the top section 8 (see below). The upper edge is also provided with guides 70 along the length thereof and in the assembled unit, the lower edge of the wall falls in line with the raised edges 41 of the base section. The free ends of the middle section are provided with male and female joints 74, 76 for mating with complimentary joints of a middle section of an adjacent unit and one end is provided with a sloping rainwater runoff point 78. A number of holes 79 are provided in spaced apart location along the longitudinal

sides of the middle section for securement of the section to the top section 8, using conventional fastening means, such as retaining bolts.

The sides of the rectangular block of the middle section are also provided with a speaker S (located in one of the cavities 64 of the middle section) and lights L, such as neon or strobe lights which are activated in an alarm situation (see Figure 10).

Figures 11, 12a and 12b show in further detail the rainwater runoff point 78 which is attached to one end of each middle section 6. The runoff point is provided by a protruding lip having two sides which meet at a ridge in the centre of the lip and slope downwardly therefrom. The two sides are linked by a further rim to form a triangular section (see Figure 12a). In this manner, rainwater is directed away from the interior of the unit. Any wiring which may be included within the system for generation of a signal to activate an alarm upon detection of movement may also pass through the centre of the triangular section.

The top section 8 of the security system is triangular in cross-section, the longitudinal edges of which are provided with rims 82 for interlocking with the lip and flange of the middle section. The top section is hollow but is provided with reinforcing ribs 84, as illustrated in Figures 3 and 4a.

In assembling the system, the base section 4 is attached to the top of the wall as described above and the middle section 6 is then placed over the base section such that the bores 62 receive the support guides 46 of the base member until the lower surface of the middle section rests on the springs 48 of the base section but above the rubber supports 50. The middle section will also come into contact with the rubber tubes 52. Locking slide members 90 (see Figures 7a and 7b) are then inserted through slots 92 provided in the

support guides 46. A limited degree of lateral movement of the middle section with respect to the base section (as shown by the arrow marked with an asterisk in Figure 7a) is possible due to the spring members 47 placed between the bore of the middle section and the support guide of the base section. The slide members are secured to the middle section by appropriate fixtures and wing nuts 49 are applied between the middle section and the base section to restrain upward movement of the unit. A small gap is maintained between the sections (see Figure 5) to allow a limited degree of vertical movement, as required.

The top section is then mounted onto the middle section and kept in place by the guides 70. The rim of the top section is arrested by the lip 66 at the front of the middle section and then secured to the flange 68 at the rear of the section (see Figure 4b) by recessed bolts 83 to form a complete unit 1. Mortar and/or cement may be introduced into the cavity between the base section and the wall to enhance the natural look of the security system (as indicated by the arrows A in Figure 3).

The springs of the base section provide the main support for the middle and top sections whilst allowing compression of the sections for monitoring force exerted against the complete unit in the vertical plane which is linked to appropriate circuitry to set off an audible and/or visible alarm. The rubber supports will absorb any sudden impact forces exerted on the middle or top sections of the assembly thereby protecting the springs from excessive downward force which would distort the springs and reduce the efficiency of the security system. The hollow rubber tubes provided around the periphery of the base section act as a seal between the base and middle sections thereby preventing the ingress of dirt

and/or water which would damage the internal components of the unit and additionally, acts as an anti-foam device.

The attachment of the middle section to the base section requires a slight downward force in order to compress the springs and enable the locking slide members to be slid and secured in position. This results in the top and middle sections, when fully assembled, being under a constant and equal pressure from the springs below. This will allow the unit to "stiffen" and yet still retain enough movement in the springs to an enable an alarm to be triggered if the unit is depressed or pushed.

The provision of locking members which allow a certain degree of lateral movement of the middle section relative to the base section enables any forces exerted against the unit to be monitored which may be linked, via the appropriate components contained within the unit, to an alarm. The guide members of the base section will return the middle section back to its original position upon removal of any force acting against it.

The ability of the unit to allow a certain degree of lateral and vertical movement and then recover its position enables such movement to be used to detect any physical pressure which is exerted on the unit and accordingly, the wall beneath. Thus, if an intruder mounts the wall and pushes the security unit in either the vertical or horizontal plane, this movement may be used to activate an alarm. The various components for detection of any movement of the sections of the unit and for activating one or more alarms may be contained within the cavities of the middle section and thus will be protected from the external environment and be hidden from view, except for the option of hardwiring for external power. Additionally, there is easy access to the installed equipment by removal of the top section only.

Various mechanisms may be employed for detection of the movement and activation of a suitable alarm. For example, magnetic contacts may be used which then send an electrical impulse to activate an alarm, or microswitches may be provided within suitable circuitry. However, a wide range of other conventional devices may also be used, such as electrical wiring, tilt switches, junction boxes, solar power units, battery packs, airline activated devices. Detection may activate an audible alarm that is released through the speakers S contained within the unit and/or illuminate the lights L contained on the sides of the unit. The system may also be linked to an internal alarm system within the property or to a central observation point.

It is to be appreciated that the various components for detecting and activating a visible or audible alarm may be contained in the base or top section depending upon the particular size and configuration of the sections.

A number of separate units may be interconnected side by side to extend around the perimeter of a property or alternatively, a unit may be made to fit a particular length of wall. It is to be appreciated that the former would be preferable due to its ability to be adapted to fit any perimeter walling. Figure 13 of the accompanying drawings illustrates the connection of adjacent base sections 4 by means of complimentary male and female parts a and b respectively which are provided on the ends of the base section, thereby maintaining the correct distance between adjacent middle sections.

The installation of a security system to a perimeter wall which extends around an entire property will require modification of the unit 1 at the junction of two or more walls and at an end wall. Figure 14 of the accompanying drawings illustrates how an overhanging

rim 72' provided on a middle section 6' may be extended around the side of the middle section which is to lie above an end wall 2'. Adjacent top sections 8 may be provided with a collar C (see Figures 15a and 16), preferably being formed of a moulded plastics material, which overlap the ends of adjacent top sections to prevent ingress of dirt and/or moisture and conceal any expansion or contraction of the top sections. Adjacent middle sections 6 may also be provided with a collar C, as shown in Figure 19. The collar may, for example, form an integral part of one end of a section to overlap a collar-less end of an adjacent section. Alternatively, each collar may be provided as a separate entity for attaching to adjacent collar-less sections.

If the end of one unit 1 meets a vertical wall, as shown in Figure 16, a separate end piece 100 (see Figure 15b) may be attached to the wall and the end security unit 1 by suitable fastenings to form a seal. The middle and base sections are also provided with modified end pieces (see Figures 17 and 18) having a vertical side to abut the wall and means for attachment to the wall and end unit.

Figures 20 and 21 illustrate alternative base, middle and top sections for providing at the junction of two walls 200, 300 which meet at right angles to each other and are each provided with multiple units making up a security system as hereinbefore described with reference to Figures 1 to 13. A base section 400 is provided consisting of a flat rectangular member 402 having raised flanges 404 which is dimensioned to fit within the gap between the respective ends of the security systems 202 and 302 on each wall and is secured to each wall by suitable fastening means placed through holes 406 provided in the flanges 404. The base section is also provided with springs 408 extending upwardly therefrom. A middle

section 500 is then fitted to the upper surface of the base section and secured by fastening means to the overhanging rim of the middle section attached to one of the walls 20 and to the end of the middle section attached to the other wall 300. Finally, a top section 600 which is moulded in a shaped to be able to abut the edges of the top sections of both walls 200, 300 is attached to the middle section. This requires the middle section to be depressed slightly in order for the top section to slide across it (see Figure 21). The top section 600 has inside its rim a neoprene or plastic collar 602 which forms a seal between the interconnecting top sections. This arrangement will still allow restrictive vertical movement of the sections of the units whilst preventing the ingress of dirt and/or water.

The sections of the security system may be made of any suitable material such as a plastics material, stone, a stone effect resin or metal to compliment the surrounding architecture. The shape of the sections may also be adapted to compliment the surroundings. For example, the ridge of the top section may be provided with decorative edging or the like, and/or the lower edge of the side walls of the middle section may be provided with an overhanging rim 72, such that the middle section overhangs the base section and a part of the wall, as illustrated in Figure 22 in which similar features already described in relation to Figures 1 to 13 are given the same reference numeral.

It is to be appreciated that the attachment will have to be adapted should only one side of adjacent properties wish to install the security system of the present invention. For example, the unit 1 may be modified to form a half unit for spanning half of a wall top.

Figures 23a to 23c and 24 of the accompanying drawings illustrate alternative top and base sections for providing at the junction of two perpendicular walls which are each

provided with a security system according to the present invention. A top section 150 is provided with one vertical end wall 152 for abutment against the end of one unit and the opposite end wall 154 is inwardly sloping to abut the sloping surface of the top section of the adjacent unit. The sloping wall 154 is provided with a seal 156 and the vertical wall has an extension 158 which, in use abuts the middle sections of the adjacent units. A bridging base section 160 is provided for attachment to the wall and top section.

Each alarm unit of the perimeter security system according to the present invention may be provided with its own internal battery system. The system may be self-charging, for example, being solar powered with a solar panel being fitted to the wall inside the protected area or fitted onto the enclosure itself. Additionally, each unit may have an external power lead to the batteries in order to maintain maximum charge. Each unit may also be provided with an electric controller in the interior thereof which has means to preset the audible and/or visible alarm to operate with a specified time in accordance with the legalisation of the local authority. A radio transmitter may also be installed, if required.

Each alarm unit enclose (represented by the numeral 1 in the accompanying drawings) may be provided with an electrical connector block. Figure 25 of the accompanying drawings provides a schematic diagram of an electrical circuit which allows for the individual alarm units 1 to be connected together by the provision of loops L in a connector block B. Individual triggers or sensors 700 provided in each unit will "open circuit" the system and set off an alarm status, such as a neon light 702, siren or horn 704 and/or a strobe 706. Triggering the sensor may also activate a verbal warning to the intruder, for example, advising him to step back or alternatively, may provide the number of

the property whose perimeter security system is being activated. The circuit also allows for additional input 708 from any garden, yard, gate or door sensitive device.

An electrical panel for operation and control of the perimeter security system may be installed within a protected property, e.g. a house. Figure 26 of the accompanying drawings provides an example of an electrical control panel 800 for use with a security system according to the present invention. The panel 800 is powered externally and has a power on/off switch 802, an indicator 804 for demonstrating that the power is on, a test button 806, a reset button 808, a timer delay function 810 and an audible alarm 812, such as a horn or buzzer. The panel may also have means 814 to disconnect the neon light, strobe light and/or audible alarm and be provided with means 816 to link the security system to an existing alarm system. Further means 818 may also be provided to send a signal, upon alarm activation, along the property's main hardwired power circuit to another remote unit for remote alarm activation. The panel is also provided with means 820 for operation of any outside security lights during alarm activation. An electrical cable, such as an 8 core electrical cable, is installed from the control panel out to the nearest alarm unit. The cable is then looped through each alarm unit and to any additional alarm sensitive devices included in the system, as illustrated in Figure 25.

The security system of the present invention provides an additional advantage in that the wall is protected from frost. The security unit is weather proof and rainwater is diverted away from the wall thereby preventing water entering the wall cavity that may freeze and thereby cause damage to the wall.

The present invention provides a security system which is completely out of sight since it is enclosed within a purposely designed, environmentally and aesthetically pleasing structure. The system has to be physically activated by a person climbing a wall which surrounds a property and thus should vastly reduce the number of false alarms. Furthermore, the alarm is raised before the intruder has chance to reach a person's home or property.

CLAIMS

1. A security system comprising an attachment for mounting on a wall, the attachment having first and second parts, the first part being fixable to the wall and the second part being mounted for relative movement on said first part in one or more planes of the wall, whereby movement of the second part generates a signal to activate a visual and/or audible alarm.
2. A security system as claimed in claim 1, wherein the second part has a limited range of movement with respect to said first part.
3. A security system as claimed in claim 1 or claim 2, wherein the second part is able to recover its original position after removal of the force which causes movement thereof.
4. A security system as claimed in claim 1, 2 or 3, wherein the means for generating the signal is housed within the interior of the attachment.
5. A security system as claimed in any one of the preceding claims, wherein the visual and/or audible alarm is located on a part of the attachment.
6. A security system as claimed in any one of the preceding claims, wherein the visual and/or audible alarm is remote from the attachment.
7. A security system as claimed in any one of the preceding claims, wherein the attachment is comprised of a base section, a middle section and a top section.
8. A security system as claimed in claim 7, wherein the base section is secured to the wall, the middle section is mounted on the base section in a manner which allows a restricted range of lateral and/or vertical movement of the middle section with respect to the base section and the top section is attached to the middle section.
9. A security system as claimed in claim 8, wherein the base section is in the form of

a flat, longitudinal member having means for attachment to the wall and is provided with at least one spring extending upwardly therefrom for supporting the intended lower surface of the middle section.

10. A security system as claimed in claim 9, wherein the base section is provided with means for preventing excessive movement of the springs.

11. A security system as claimed in any one of claims 7 to 10, wherein a seal is provided around the perimeter of the base section.

12. A security system as claimed in any one of claims 8 to 11, wherein the base section is provided with support guides for receiving the middle section.

13. A security system as claimed in claim 12, wherein the support guides are provided with slots for receiving locking slide members.

14. A security system as claimed in claim 12 or 13, wherein the middle section is in the form of a rectangular elongated block dimensioned to fit onto the base section and having bores for receiving the support guides of the base section.

15. A security system as claimed in claim 14, wherein spring members are provided between the bore of the middle section and the guide of the base section to allow a limited range of lateral movement of the middle section with respect to the base section.

16. A security system as claimed in any one of claims 7 to 15, wherein the middle section is relieved of material in one or more regions thereof to provide, in the assembled unit, one or more cavities for housing internal components of the security system.

17. A security system as claimed in any one of claims 7 to 16, wherein the top section is provided with means for being releasably secured to the middle section.

18. A security system as claimed in any one of claims 7 to 17, wherein the intended upper surface of the top section is sloping to direct water away from the wall.

19. A security system as claimed in any one of the preceding claims, wherein multiple attachments are connected together to provide a security system which extends around the perimeter wall of a property.
20. A security system as claimed in claim 19, wherein each attachment is provided with an electric controller in the interior thereof having means to preset the audible and/or visible alarm to operate within a specified time period.
21. A security system as claimed in claim 19 or claim 20, wherein an electrical connector block is provided within each attachment for connecting all the attachments together by means of loops in the circuit whereby movement of an individual attachment will open circuit the system and cause activation of an audible and/or visible alarm.
22. A security system substantially as hereinbefore described and with reference to Figures 1 to 13, Figure 14, Figures 15a to 16, Figure 17, Figure 18, Figure 19, Figures 20 and 21, Figure 22 or Figures 23a to 23c of the accompanying drawings.



Application No: GB 9910336.8
Claims searched: 1-22

Examiner: David Summerhayes
Date of search: 28 July 1999

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.Q): G4N (NAT1, NSBB)

Int Cl (Ed.6): G08B 13/00, 13/02, 13/10, 13/12

Other: Online: EPODOC, WPI

Documents considered to be relevant:

| Category | Identity of document and relevant passage | Relevant to claims |
|----------|---|--------------------|
| X | GB 2171232 A (PACE) | 1-6,19-21 |
| X | GB 1558707 (SAN) | 1-6 |
| X | GB 1354057 (PYE) | 1-6,19-21 |
| X | US 5461364 (SANFORD) | 1-6,19-21 |

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